FIG. 1A
FIG. 1B
FIG. 1C
FIG. 1D
FIG. 1E
FIG. 1F

FIG. 1

```
  1 GGATCCTGGT CGCGAGCGCG CCGCCCAGCC ACCTGCCGGC GCGCCCCGCC


    GGGACCGCTC GAGGACGCCT CGCGAAGGCT CTAGGGGCTG TATCTTCAAG


101 AGTCTACGCC CCTTTGTTGC AGTGCACAAA TTTCCGTGCT AGCTTCATGC
                             "-35"

                                      phaE
    TATCACGCCC CAGACGAGGA AGATTCACCG TGAACGATAC GGCCAACAAG
                    S/D            V  N  D  T  A  N  K

201 ACCAGCGACT GGCTGGACAT CCAACGCAAG TACTGGGAGA CCTGGTCGGA
     T  S  D  W  L  D  I  Q  R  K  Y  W  E  T  W  S  E

    GCTCGGCCGC AAGACCTTGG GTCTGGAGAA GACCCCGGCC AATCCTTGGG
     L  G  R  K  T  L  G  L  E  K  T  P  A  N  P  W  A

301 CCGGCGCCCT CGATCATTGG TGGCAGACGG TCTCGCCCGC CGCCCCCAAC
     G  A  L  D  H  W  W  Q  T  V  S  P  A  A  P  N

    GACCTGGTTC GCGACTTCAT GGAGAAGCTC GCCGAGCAGG GCAAGGCCTT
     D  L  V  R  D  F  M  E  K  L  A  E  Q  G  K  A  L

401 CTTCGGCCTC ACCGACTACT TCACGAAGGG CCTCGGCGGC AGTAGCGGTA
     F  G  L  T  D  Y  F  T  K  G  L  G  G  S  S  G  T

    CGCAGGGCTG GGACACCCTC TCGAAGACCA TCGACGACAT GCAAAGGCC
```

FIG. 1A

```
501  TTCGCCAGCG  GCCGGATCGA  AGGCGACGAG  ACCTTCCGCC  GCCTGATGGC
      F  A  S  G   R  I  E     G  D  E     T  F  R  R     L  M  A

     CTTCTGGGAG  ATGCCGCTCG  ACAACTGGCA  GCGCACCATG  TCCTCGCTGT
      F  W  E     M  P  L  D   N  W  Q     R  T  M     S  S  L  S

601  CCCCGGTGCC  CGGCGACCTG  CTGCGCAACA  TGCCGCACGA  CCAAGTCAGG
      P  V  P     G  D  L     L  R  N  M   P  H  D     Q  V  R

     GACAGCGTCG  ACCGCATCCT  CTCGGCACCC  GGGCTCGGCT  ACACGCGCGA
      D  S  V  D   R  I  L     S  A  P     G  I  G  Y   T  R  E

701  GGAGCAGGCC  CGCTACCAGG  ATCTGATCCG  CCGCTCGCTG  GAGTACCAGT
      E  Q  A     R  Y  Q  D   L  I  R     R  S  L     E  Y  Q  S

     CGGCCCTGAA  CGAATACAAC  GGCTTCTTCG  GCCAGCTCGG  TGTCAAGTCC
      A  L  N     E  Y  N     G  F  F  G   Q  L  G     V  K  S

801  CTCGAGCGGA  TGCGCGCCTT  CCTGCAGGGA  CAGGCCGAGA  AGGGCGTCGC
      L  E  R  M   R  A  F     L  Q  G     Q  A  E  K   G  V  A

     CATCGAGTCG  GCGCGCACCC  TCTACGACGC  CTGGGTCGGC  TGCTGCGAAG
      I  F  S     A  R  T     Y  D  A     W  V  G     C  C  E  E

901  AGGTCTATGC  CGAGGAGGTC  AGCTCGGCG   ACTACGCGCA  CATCCACGGC
      V  Y  A     E  E  V     S  S  A  D   Y  A  H     I  H  G

     CGCCTCGTCA  ACGCCCAGAT  GGCCCTCAAG  CAGCGCATGT  CGACCATGGT
      R  I  V  N   A  Q  M     A  I  K     Q  R  M  S   I  M  V
```

FIG. 1B

1001 CGACGAGGTC CTCGGCGCGA TGCCGCTGCC GACCCGCAGC GAGCTGCGCA
     D E V   L G A M   P L P   T R S   E L R T

     CGCTCCAGGA TCGGCTCCAG GAGTCGCGCG GCGAGGGCAA GCGCCAGCGC
      L Q D   R L Q   E S R   G E G K   R Q R

1101 CAAGAGATCG AGACGCTGAA GCGGCAGGTC GCGGCCTTGG CCGGCGGCGC
     Q I I E   T L K   R Q V   A A L   A G G A

     CCAGCCCGCG CCCCAGGCCT CCGCCCAGCC CAGCACCCGG CCCGCGCCGG
     Q P A   P Q A S   A Q P   S T R   P A P A

1201 CGACGGCCCC GGCGGCGAGC GCGGCGCCCA AGCGCAGCAC CACGACCCGC
      T A P   A A S   A A P K   R S T   T T R

     CGCAAGACCA CCAAGCCCAC CACCGGCCAG TGATGTCGGC CGCCCGTCCA
     R K T T   K P T   T G Q   *

                                      phaC
1301 TCGCCACCAG GAGAGAGTGC CGTGTCCCCA TTCCCGATCG ACATCCGGCC
               S/D   V S P   F P I D   I R P

     CGACAAGCTG ACCGAGGAGA TGCTGGAGTA CAGCCGCAAG CTCGGCGAGG
      D K L   T E E   M L E Y   S R K   L G E G

1401 GTATGCAGAA CCTGCTCAAG GCCGACCAGA TCGACACAGG CGTCACCCCC
     M Q N   L L K   A D Q I   D T G   V T P

     AAGGACGTCG TCCACCGCGA GGACAAGCTG GTCCTCTACC GCTACCGGCG

1501 CCCGGCGCAG GTGGCGACCC AGACGATCCC GCTGCTGATC GTCTACGCCC
         P A Q   V A T Q   T I P   L L I   V Y A L

     TCGTCAATCG GCCCTACATG ACCGACATCC AGGAGGATCG CTCGACGATC
         V N R   P Y M   T D I   Q E D R   S T I

1601 AAGGGCCTGC TCGCCACCGG TCAGGACGTC TATCTGATCG ACTGGGGCTA
         K G L   L A T G   Q D V   Y L I D   W G Y

     CCCGGATCAG GCCGACCGGG CGCTGACCCT CGATGACTAC ATCAACGGCT
         P D Q   A D R A   I T L   D D Y   I N G Y

1701 ACATCGACCG CTGCGTCGAC TACCTGCGCG AGACCCACGG CGTCGACCAG
         I D R   C V D   Y L R E   T H G   V D Q

     GTCAACCTGC TCGGGATCTG CCAGGGCGGG GCCTTCAGCC TCTGCTACAC
         V N L L   G I C   Q G G   A F S L   C Y T

1801 GGCCCTGCAC TCCGAGAAGG TCAAAAACCT CGTCACCATG GTCACGCCGG
         A L H   S E K V   K N L   V T M   V T P V

     TCGACTTCCA GACCCCGGGC AACCTGCTCT CGGCCTGGGT CCAGAACGTC
         D F Q   T P G   N L L S   A W V   Q N V

1901 GAGGTCGACC TGGCCGTCGA CACCATGGGC AACATCCCGG GCGAACTGCT
         D V D L   A V D   I M G   N I P G   E L L

     CAACTGGACC TTCCTGTCGC TCAAGCCCTT CAGCCTGACC GGCCAGAAGT
         N W T F   L S L   K P F   S L T   G Q K Y

FIG. 1D

```
2001 ACGTCAACAT GGTCGACCTG CTCGACGACG AGGACAAGGT CAAGAACTTC
      V  N  M   V  D  L   L  D  D  E   D  K  V   K  N  F

     CTGCGGATGG AGAAGTGGAT CTTCGACAGC CCGGACCAGG CCGGCGAGAC
      L  R  M  E  K  W  I   F  D  S   P  D  Q  A   G  E  T

2101 CTTCCGCCAG TTCATCAAGG ACTTCTACCA GCGCAACGGC TTCATCAACG
      F  R  Q   F  I  K  D   F  Y  Q   R  N  G   F  I  N  G

     GCGGCGTCCT GATCGGCGAT CAGGAGGTCG ACCTGCGCAA CATCCGCTGC
      G  V  L   I  G  D   Q  E  V  D   L  R  N   I  R  C

2201 CCGGTCCTGA ACATCTACCC GATGCAGGAC CACCTGGTGC CGCCGGATGC
      P  V  L  N  I  Y  P   M  Q  D   H  L  V  P   P  D  A

     CTCCAAGGCC CTCGCGGGAC TGACCTCCAG CGAGGACTAC ACGGAGCTCG
      S  K  A   L  A  G  L   T  S  S   E  D  Y   T  E  L  A

2301 CCTTCCCCGG CGGGCACATC GGCATCTACG TCAGCGGCAA GGCGCAGGAA
      F  P  G   G  H  I   G  I  Y  V   S  G  K   A  Q  E

     GGAGTCACCC CGGCGATCGG CCGCTGGCTG AACGAACGCG GCTGAGCCGG
      G  V  T  P  A  T  G   R  W  I   N  E  R  G   *

2401 GTCGACCCAC CCGCTCGACG GGCGCGGCCG GCGGCATCGA AGGCCGCCGG

     CCGGCGCCCA TGAGCCATCC GCGCCGCTGG CGCCGGCCGC CCGACCTTCG
```

FIG. 1E

2501 CCGCCGCACC CGCATCGCCC CCGCGGCTGG CGTACAATGA CGGTCTTCGC

GAGCGAGCCC CGCATCGTCA ACGGAGGCTG CATGGGCGCC GACCACCAAC

2601 TGCTGGCCGC GTACGACGCG CTGGCCGAGA CCTACGACGC CCACCGCGGC

CTCTTCGACA TGCGCGCCGT GCTCGAGGAC ATCTTCGCCC GCCTGCCGGC

2701 CTGCGGCACC CTCCTCGACC TCGGCTGCGG CGCCGGGGAG CCGTGCGCGC

GCGCCTTCCT CGACCGCGGC TGGCGGGTGA CCGGGGTGGA CTTCTGCCCG

2801 GCCATGCTCG CCCTCGCGGC GCGCTACGTC CCCGAGATGG AGCGGATCC

FIG. 1F
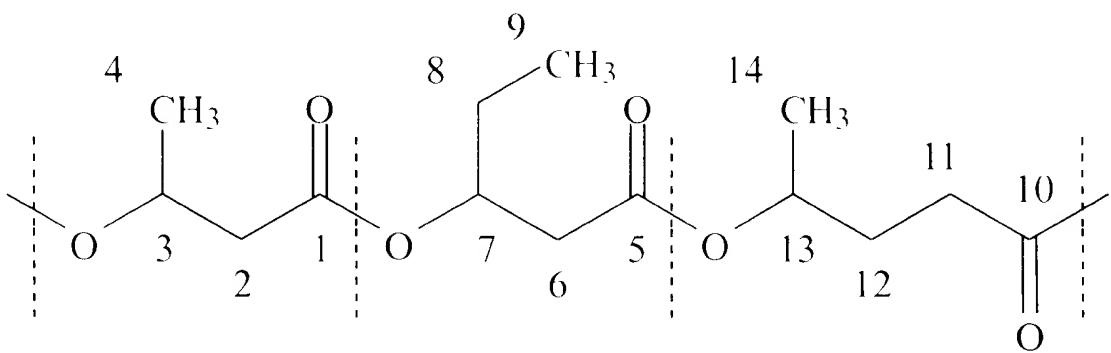
3HB 3HV 4HV

FIG. 2
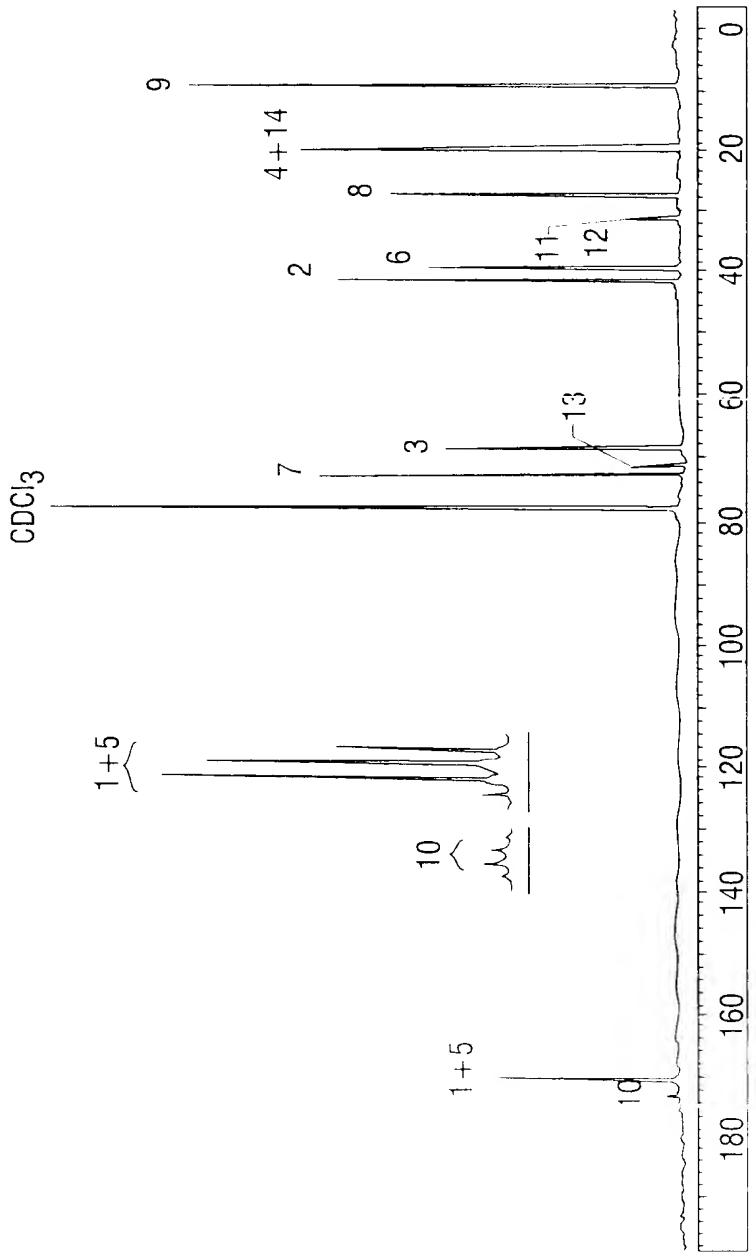
FIG. 3
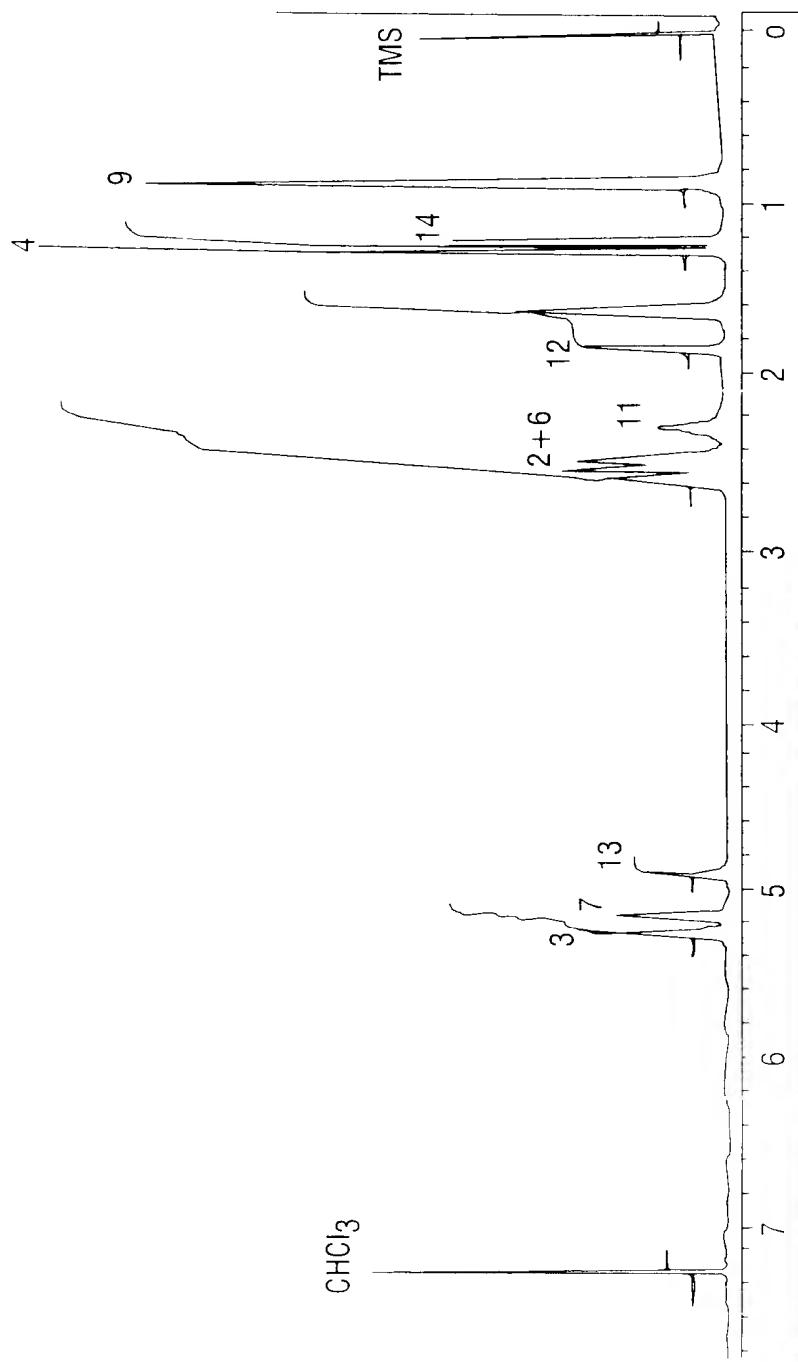
FIG. 4
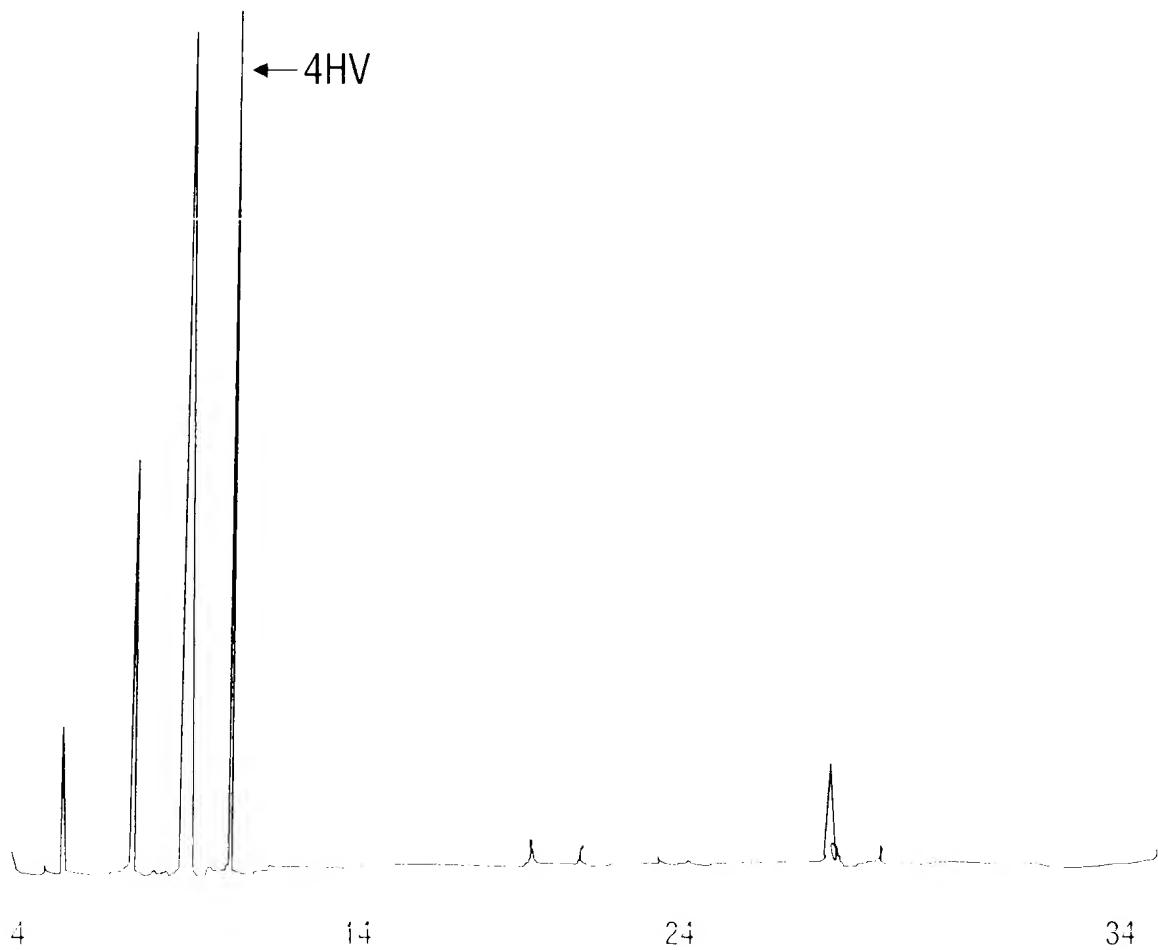
FIG. 5
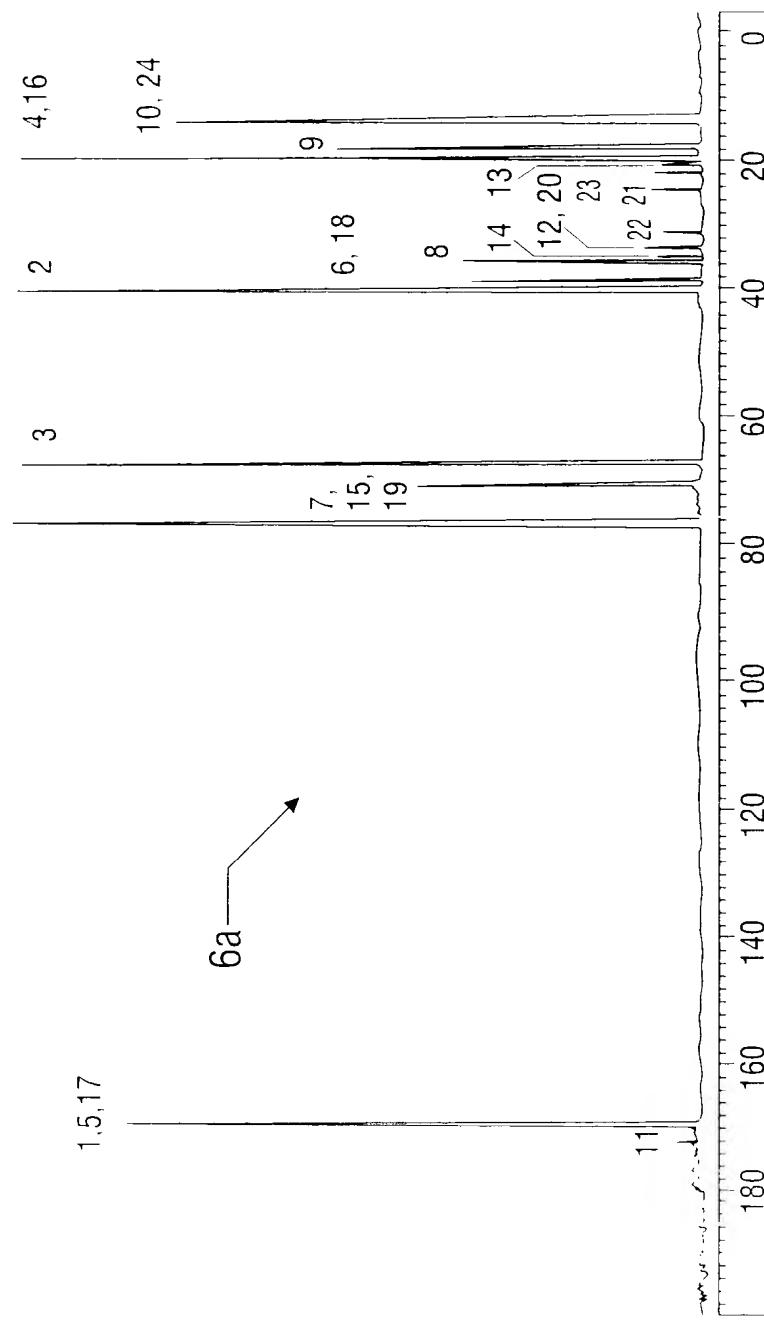
FIG. 6
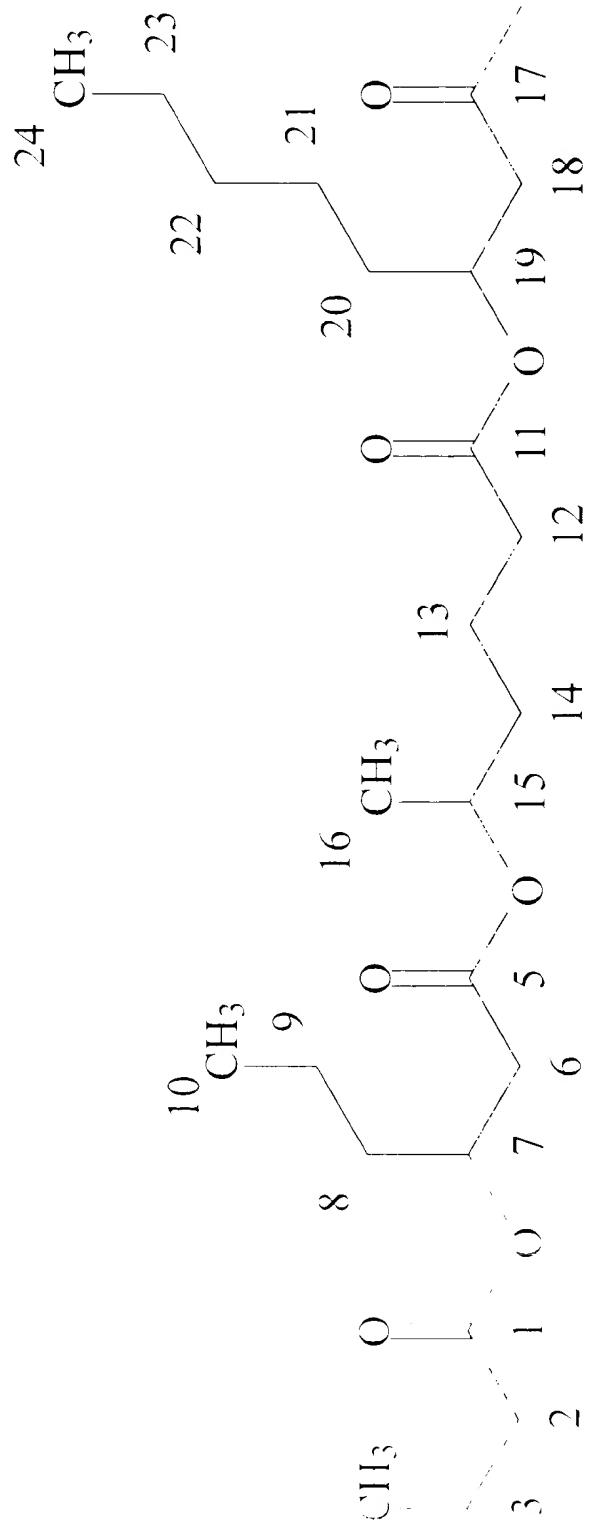
FIG. 6A
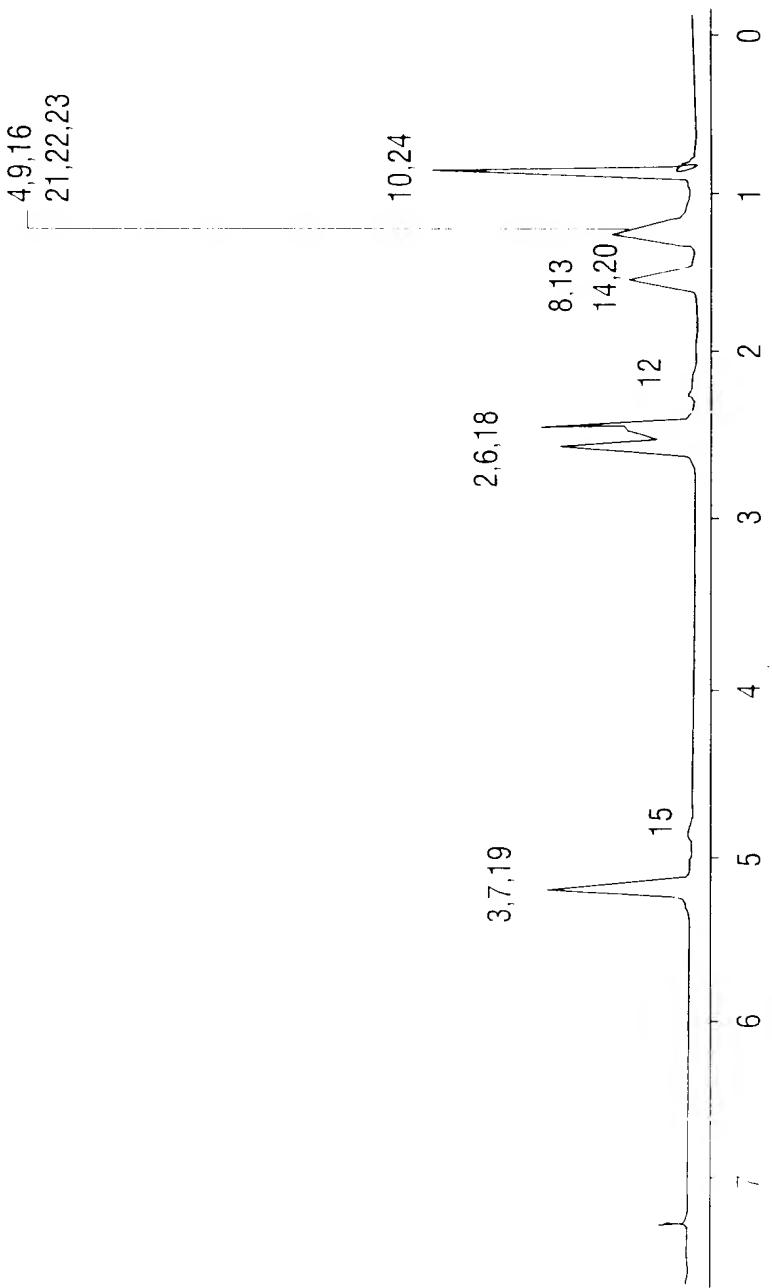
FIG. 7
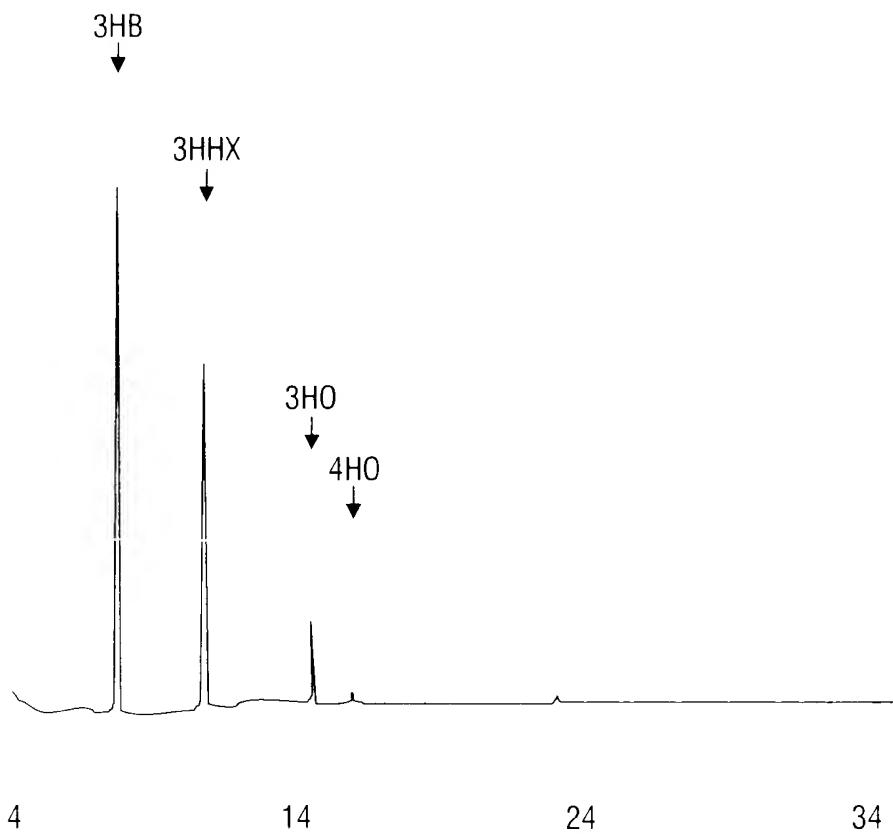
FIG. 8
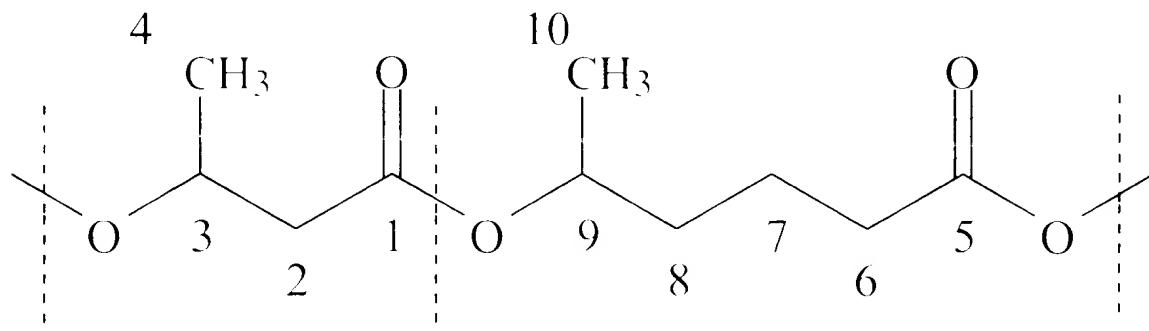
FIG. 9
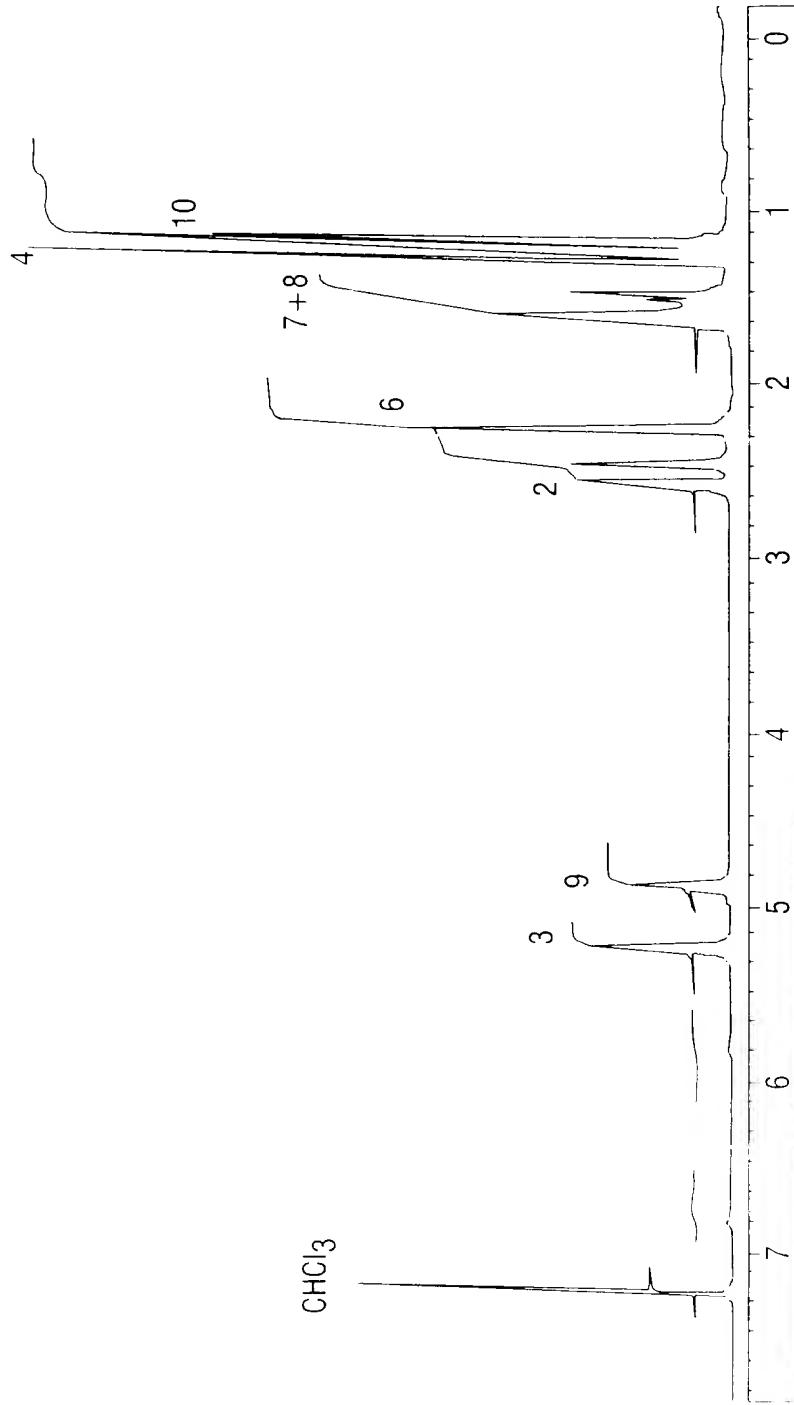
FIG. 10
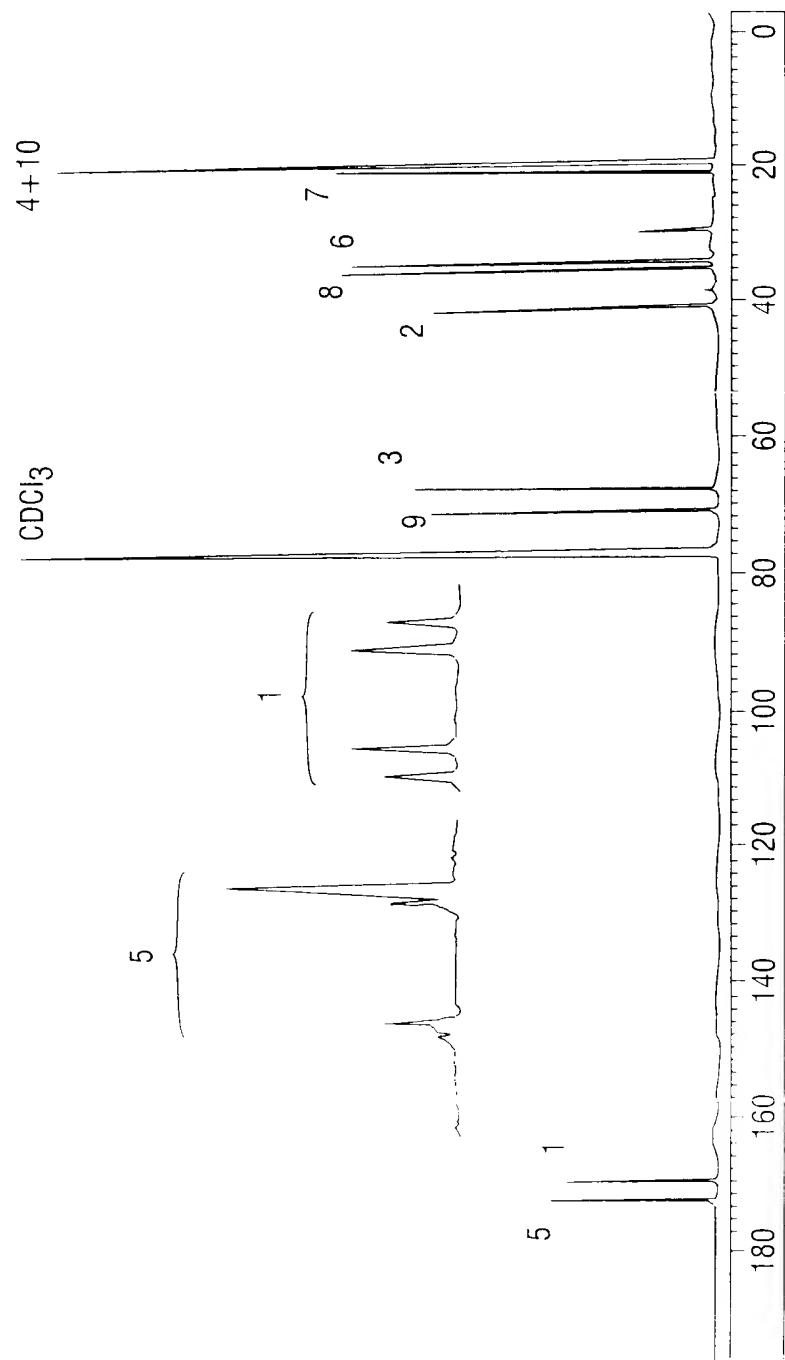
FIG. 11
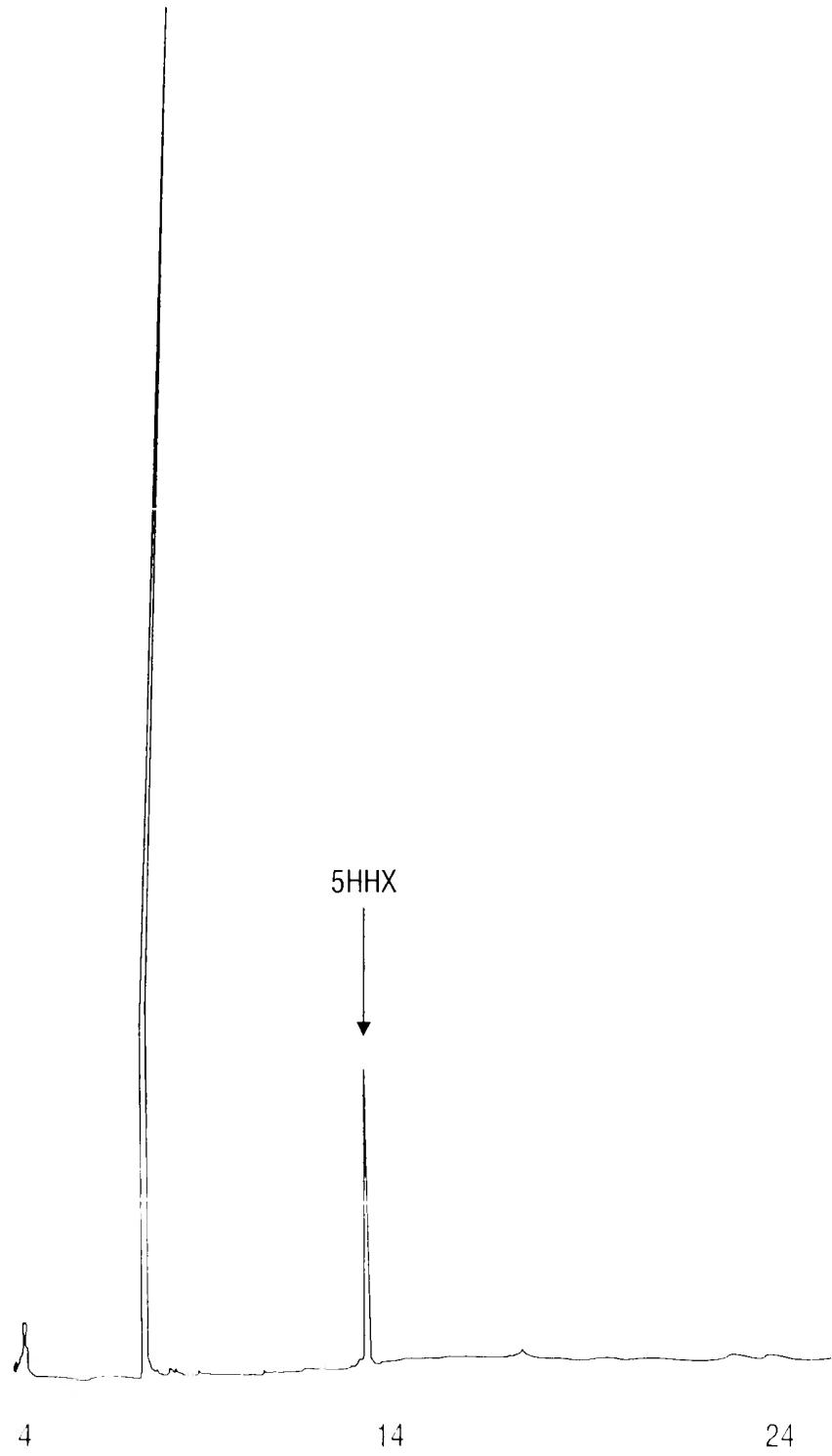
FIG. 12
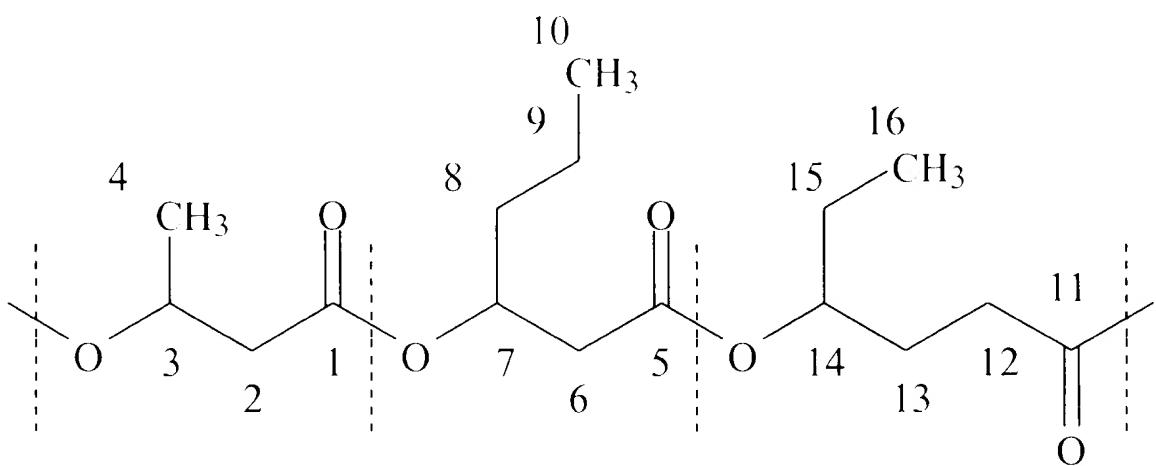
FIG. 13

FIG. 14

FIG. 15

FIG. 16

FIG. 17